[0069] When **920** is affirmatively answered, a redundancy/resource sharing mode may be enabled by lending one or more radio units to the failing cell sector at step **925**. In certain embodiments, enabling the redundancy/resource sharing mode may include turning off the CDD or MIMO configuration in the radio unit **260** that has been selected for providing resource sharing. For example, if the selected radio unit **260** was initially operating as a MIMO unit, then the selected radio unit **260** may be transitioned to a SIMO or SISO unit. Doing so will free up antenna ports that are not used when the selected radio unit **260** operates with a single transmitter and receiver. In certain embodiments, enabling the redundancy/resource sharing mode may include reconfiguring the CDD or MIMO radio ports that were previously used for transmitting in the radio sector associated with the selected radio unit **260**. Stated differently, radio unit link points may be established between the available radio ports of the selected radio unit **260** and an antenna unit associated with the failing radio sector. In this manner, the selected radio unit **260** may be lent to the failing sector and wireless device coverage may be restored to the failing sector with minimum loss. The lending of services by the selected radio unit **260** may continue until the failing radio unit **260** is replaced and service restored. Then method may then terminate.

[0070] Returning to step **905**, if it is determined that all radio units **260** are active, it may be determined whether any cell sector has a PRB utilization that is greater than a user defined threshold at step **930**. As discussed above, the PRB utilization may include the sum of the total number of physical resource block (PRB) pairs used for data radio bearers in the downlink (pmPrbUsedDlDtch) and the total number of PRB pairs used for data radio bearers in the uplink (pmPrbUsedUlDtch) in a particular embodiment. The pmPrbUsedDlDtch measurement may be applicable to the Dedicated Traffic Channel (DTCH) on the Physical Downlink Shared Channel (PDSCH). Conversely, the pmPrbUsedUlDtch measurement may be applicable to the DTCH on the Physical Uplink Shared Channel (PUSCH). In certain embodiments, the first predefined threshold may be thirty percent. Thus, in a particular embodiment, it may be determined that at least one cell sector has a PRB utilization that is less than thirty percent. However, it is generally recognized that the first predefined threshold is provided for example purposes and may vary as appropriate.

[0071] If a cell sector is determined to have a PRB utilization that is less than the first predefined threshold, the cell sector may be identified as a low load cell sector. The method then continues to step **935**. At step **935**, it is determined whether any active radio unit **260** is operating with a MIMO or CDD configuration. If no active radio unit **260** is operating with a MIMO or CDD configuration, the SON analysis may be performed at step **940** to identify a radio unit which can accommodate the current running traffic in the low load cell sector based on active traffic each cell sector. In certain embodiments, the identified radio unit **260** must be able to handle the additional traffic of the cell sector identified as a low load sector in step **930** while maintaining a user defined PRB reservation threshold and/or satisfying QoS admission control. The network node may then be switched to the resource sharing mode that will permit the identified radio unit to provide service to the low load cell sector. Power may be tapped from the identified radio unit and provided to the antenna unit associated with the low load cell sector. The radio unit **260** associated with the low load cell sector may then be disabled and the method may terminate.

[0072] Returning to step **935**, if it is determined that an active radio unit is operating with a MIMO or CDD configuration, the method may continue to step **945**. At step **945**, it is determined whether the number of active wireless devices **110** being serviced by the active radio unit **260** having the MIMO or CDD configuration is equal to zero, indicating a no load cell sector. In some market areas, a cell sector may experience a no load condition for up to six hours per day. This time corresponds generally with the amount of time that users of wireless devices in the market area spend sleeping.

[0073] In a particular embodiment and as discussed above, processor **220** may include a counter for determining the number of user devices being actively serviced in both the downlink and uplink directions. Specifically, a counter may aggregate for each TTI, the number of wireless devices in the downlink direction with DRB data to send. Likewise, the counter may aggregate for each TTI the number of wireless devices with buffer status reports indicating DRB data to be sent in the predefined direction. Processor **220** may then sum the number of wireless devices considered active in the downlink direction (pmActiveUeDlSum) and the number of wireless devices considered active in the uplink direction (pmActiveUeUlSum) and determine if the sum has been equal to zero for a predefined interval of time. In a particular embodiment, for example, it may be determined whether the number of wireless devices has been equal to zero for at least fifteen minutes. However, the predefined interval may include any period of time appropriate for determining that the radio unit is under a no load condition. In a certain embodiments, the predefined time interval may be dynamically adjusted based on historical data processing.

[0074] If the number of active units has not been equal to zero for the predefined interval of time, the method returns to step **940**. At step **940**, the SON analysis may be performed to identify a low load a radio unit which can accommodate the low load sector based on current cell sector loading. In a particular embodiment, any identified radio unit **260** must be able to handle the additional traffic of the low load sector while maintaining a user defined PRB reservation threshold and/or satisfying QoS admission control. The network node may then be switched to the resource sharing mode that will permit the identified radio unit to provide service to the low load cell sector. Power may then be tapped from the identified radio unit and provided to the low load cell sector. The radio unit **260** associated with the low load cell sector may then be disabled and the method may terminate.

[0075] If at step **940**, however, no radio unit **260** is identified as being able to accommodate servicing the no or low load cell sector, then the radio unit **260** experiencing the no or low load condition may be switched from a MIMO configuration to a SIMO or SISO configuration if there are no wireless devices **110** in the sector operating in spatial multiplexing mode. In this manner, even where radio unit sharing is not possible due to load conditions, the configuration of a radio unit experiencing no or low load conditions can be optimized to result in energy savings if transmit diversity gain is not significant.

[0076] Returning to step **945**, if it is determined that the number of active wireless devices served by the radio unit **260** that is configured for MIMO has been equal to zero for at least the predefined time interval the method continues to step **950**. At step **950**, the identified radio unit **260** is reconfigured for